

Title (en)

Attachment of roofing material and screw-washer assembly.

Title (de)

Befestigung für Dacheindeckungsbaumaterial und Montage mittels Schraube-Unterlegscheibe.

Title (fr)

Fixation de matériau de toiture et montage par rondelle-vis.

Publication

EP 0421813 A1 19910410 (EN)

Application

EP 90310946 A 19901005

Priority

US 41736889 A 19891005

Abstract (en)

A method of attaching a roofing membrane (18,20) to an underlayment (12) uses a screw (30) and a composite roofing washer (40) to attach the membrane (18,20) to the underlayment (12). The composite roofing washer (40) is an interlocked assembly of a metal roofing washer (42) and a thermoplastic insert (44). After the screw (30) has been driven, the thermoplastic insert (44) is heated to cause some of its material to flow over the head (32) of the screw (30), thereby to heat-seal the screw (30) to the thermoplastic insert (44). The thermoplastic insert (40) may be heated when the roofing membrane (12) is welded at an overlapped seam.

IPC 1-7

E04D 3/36; **E04D 5/14**; **F16B 37/14**

IPC 8 full level

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Citation (search report)

- [A] US 4467581 A 19840828 - FRANCOVITCH THOMAS F [US]
- [A] FR 1136681 A 19570516 - FAIREY AVIAT CO LTD
- [AD] US 4476660 A 19841016 - FRANCOVITCH THOMAS F [US]
- [AD] US 4686808 A 19870818 - TRIPLETT CAROL J [US]
- [A] US 4852323 A 19890801 - KARRFALT HENRY A [US]

Cited by

EP0535547A1; EP0530101A1; FR2680816A1; EP0943418A1; BE1011842A3; WO2006102144A1; WO9637666A1

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